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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/565,535

07/17/2006

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EXAMINER

REDDY, KARUNA P

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

01/07/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/565,535	Applicant(s) SASAKI ET AL.	
	Examiner Karuna P. Reddy	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 December 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This office action is in response to the amendment filed on 12/5/2007. Claims 1-16 are currently pending in the application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 103***

3. Claims 1-2, 4, 6-16 rejected under 35 U.S.C. 103(a) as being unpatentable over Kawai et al (US RE 34,061 - is the same as EP 1 41610 A) in view of Koike (US 5, 767, 200).

The rejection is adequately set forth in paragraph 5 of office action mailed 8/16/2007 and is incorporated here by reference.

4. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takase et al (US 2003/0021943 A1) in view of Koike (US 5, 767, 200)

The rejection is adequately set forth in paragraph 6 of office action mailed 8/16/2007 and is incorporated here by reference.

### ***Response to Arguments***

5. Applicant's arguments, see page 2, lines 1-11, filed 12/5/2007, with respect to objection have been fully considered and are persuasive. The objection to claims 8-11 and 13-16 has been withdrawn in light of the preliminary amendment filed 1/23/2006, wherein all instances of multiple dependencies have been removed.
6. Applicant's arguments filed 12/5/2007 have been fully considered but they are not persuasive. Specifically, applicant argues that (A) significant feature of the invention lies in at least one hydrogen in the condensed ring being replaced with deuterium. The primary reference of neither Kawai et al nor Takase et al teach deuteration of tricyclo acrylates while Koike et al teaches only MMA-d8; (B) method of making deuterated compound [1] of claim 1 is not obvious because deuteration of norbornyl methacrylate, in present claims, is conducted in the presence of Pd carbon catalyst; and (C) compound [1] of claim 1 has a much smaller absorption attributed to fourth C-H overtone at 730 nm or 910 nm compared to the polymer with 0% heavy hydrogen content.

With respect to (A), both Kawai et al and Takase et al disclose tricyclo acrylates that are suitable as optical materials, while the secondary reference of Koike et al recognizes that optical absorbance attributable to expansion and contraction of the C-H bond interferes with absorbance peak wavelength and coincides with the operating wavelength of an optical device. Koike et al teaches

that when the C-H bond of molecules of optical resin are replaced with C-D bond, these absorbance peaks disappear and the threshold transmission loss values are drastically improved compared with the case of C-H bond. It is this aspect of the secondary reference i.e. replacing "H" in C-H with "D" that would lead one of ordinary skill in the art to modify primary reference of Kawai et al or Takase et al whereby threshold transmission loss values are improved.

With respect to (B), it is noted that the features upon which applicant relies (i.e., deuteration of norbornyl methacrylate in the presence of Pd carbon catalyst) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

With respect to (C), smaller absorbance at 730 nm or 910 nm naturally flows from the teachings of Kawai et al or Takase et al either of which in view of Koike et al and is a result of deuteration i.e. replacing "H" in C-H with "D" which is well recognized in the secondary reference of Koike et al.

### **Conclusion**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is

filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karuna P. Reddy whose telephone number is (571) 272-6566. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair->

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Karuna P Reddy  
Examiner  
Art Unit 1796

/KR/

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